

REMARKS

Claim Rejections

Claims 1-6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee (U.S. 6,724,509).

Drawings

Applicant proposes to amend Figures 1, 1A and 1B, as illustrated in red on the attached photocopies. In Figures 1, 1A and 1B it is proposed to add the label --PRIOR ART--. No "new matter" has been added to the original disclosure by the proposed amendments to these figures. Approval of the proposed drawing changes is respectfully requested.

New Claims

By this Amendment, Applicant has canceled claims 1-6 and has added new claims 7-11 to this application. It is believed that the new claims specifically set forth each element of Applicant's invention in full compliance with 35 U.S.C. § 112, and define subject matter that is patentably distinguishable over the cited prior art.

The new claims are directed toward a laser scanning unit comprising: a semiconductor laser (20) emitting laser beams; a collimator (21) receiving laser beams from the semiconductor laser and emitting parallel beams; a lens (23) being one of a $F\theta$ lens and a $F\sin\theta$ lens; and a micro electronic mechanical system (MEMS) oscillatory mirror (22) located directly between the collimator and the lens, wherein the collimator directly projecting the parallel beams onto the micro electronic mechanical system (MEMS) oscillatory mirror, the micro electronic mechanical system (MEMS) oscillatory mirror directly reflecting the parallel beams onto the lens, the micro electronic mechanical system (MEMS) oscillatory mirror oscillating in a harmonic motion at regular oscillating amplitude and controlling a direction the parallel beams are reflected onto the lens thereby providing a linear scanning effect.

Other embodiments of the present invention include: the micro electronic mechanical system (MEMS) oscillatory mirror is located adjacent to the collimator; the laser beams emitted by the semiconductor laser have a central axis that is aligned with a mechanic center of the micro electronic mechanical system (MEMS) oscillatory mirror; the $F\theta$ lens is one of a single-element scanning lens and a two-element scanning lens; and the lens is the $F\sin\theta$ lens having a harmonic motion matching the harmonic motion of the micro electronic mechanical system (MEMS) oscillatory mirror.

The cited reference to Lee teaches a scanner including a light source (100, 10), a lens system (220, 22), focusing lens (640a, 650a, 660a, 64a, 65a, 66a), collimating lens (640b, 650b, 660b, 64b, 65b, 66b), reflecting mirrors (710, 720, 71, 72), vertical and horizontal scanning mirrors (70, 80), and reflecting mirror (85).

Lee does not teach a micro electronic mechanical system (MEMS) oscillatory mirror located directly between the collimator and the $F\theta$ lens; the collimator directly projecting the parallel beams onto the micro electronic mechanical system (MEMS) oscillatory mirror; the micro electronic mechanical system (MEMS) oscillatory mirror directly reflecting the parallel beams onto the lens; nor does Lee teach the micro electronic mechanical system (MEMS) oscillatory mirror oscillating in a harmonic motion at regular oscillating amplitude and controlling a direction the parallel beams are reflected onto the lens thereby providing a linear scanning effect.

It is submitted that Lee does not disclose, or suggest any modification of the specifically disclosed structures that would lead one having ordinary skill in the art to arrive at Applicant's claimed structure. Thus, it is not believed that Lee renders obvious any of Applicant's new claims under 35 U.S.C. § 103.

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Summary

In view of the foregoing amendments and remarks, Applicant submits that this application is now in condition for allowance and such action is respectfully requested. Should any points remain in issue, which the Examiner feels could best be resolved by either a personal or a telephone interview, it is urged that Applicant's local attorney be contacted at the exchange listed below.

Respectfully submitted,

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By:



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